69. **Spindalis zena townsendi** *Ridgway.* ABACO SPINDALIS.— This well-marked race was common amongst the pines on Abaco, and though we shot a number, only succeeded in recovering two that would do for specimens.

70. **Pyrrhulagra violacea** (*Linn.*). BAHAMA BULLFINCH.— Very common on New Providence, but seen in far less numbers on Eleuthera, Cat Island, and Long Island. Keeps to the thick scrub and is rarely seen, but is one of the first birds to respond to squeaking.

71. **Tiaris bicolor** (*Linn.*). BAHAMA GRASSQUIT.— Abundant on New Providence, Eleuthera, Cat Island, Watlings Island, Long Island, and Abaco. It has a sweet little weak song that somewhat reminded me of the Field Sparrow's. This song is generally delivered from a low bush but occasionally from the tops of the taller trees. It frequents the scrubby growth, keeping near the ground, as a rule.

ARE THE HABITS OF BIRDS CHANGING?

BY GEO. F. BRENINGER.

CHANGES in the habits of birds are largely due to conditions; conditions change with the progress of time. A century ago there were many large areas of timbered lands; these are being gradually cut away, until to-day there are but few large timbered tracts within the boundaries of the United States, and these principally in the West. With the felling of the trees and the clearing away of the smaller growths, follows the plowman; seed is sown, and changes take place, which attract some species and drive others away. The nesting habits in many species change.

During the past twenty-five years I have seen changes in nesting sites in many species, notably with Lucy's Warbler (*Helminthophila luciæ*). Normally this warbler nests in natural cavities in the trunks of trees. My observations lead me to believe the mesquite to be the kind of tree selected, though in a measure this is again due to conditions. In the land where Lucy's Warbler lives mesquite is the principal tree. Cottonwood is also

used, but after all, its the 'hole' that is selected and not the tree, be it mesquite, willow or a fence post. I have seen probably a hundred instances of the nesting of this warbler. I find that the majority were in natural cavities in dead parts of living trees — woodpecker cavities in trees and fence posts. The next greatest number place their nests behind pieces of loose bark. In later years we find them appropriating old and abandoned nests of the Verdin (*Auriparus flaviceps*) and other species. In one instance I saw a thrasher's nest used. The warbler had built its nest within the cavity of the larger nest. In still another instance a warbler had built its nest in a hole in a bank of earth. The height of surprise was reached in an open nest built among the smaller limbs of a mesquite tree. The material used in its construction was of mesquite leaves and stems lined with horse-hair, the same as is used in a cavity.

These unusual nesting sites were mostly noted in the vicinity of Tucson, Arizona, where the larger trees had been cut away, and with them all the holes used in former years, and in consequence thereof certain species of birds are forced to adopt other nesting sites and methods of nest building.

Another instance is that of the Ash-throated Flycatcher (*Myiarchus mexicanus magister*). Not capable of cutting its own nesting cavity, it preëmpts those cut by other species, chiefly woodpeckers. With the destruction of the larger trees, *Myiarchus* is forced to look elsewhere for a location. Unusual among nesting sites of this species is one in a tree yucca, the hair-lined nest being built among the hanging leaves close to the trunk, where the sitting bird could look out upon the world through the lattice work of dry leaves. Another instance is where a pair made their home in a barn, the eggs being deposited in a nest of hair built on a cross beam on the side of the barn. Entrance was gained through a hole cut by a Flicker.

Every one is familiar with the swallow's nest beneath the eaves of the house, both of Cliff Swallows (*Petrochelidon lunifrons*) and Barn Swallows (*Hirundo erythrogastra*), and to-day few people can tell of seeing nests of Barn Swallows in any other place than under the protection of some of man's structures. In the case of the Cliff Swallow, many colonies still cling to the primitive method

of placing the nest on some overhanging rock or bank of clay. In sections of country where houses are few or entirely absent, both species nest on the face of a rock. Such places are rare, for wherever there is inducement enough to offer a home for the swallows, there is enough for man. With the advent of man, a house follows, and the swallows are not long in finding it.

Down in Mexico I saw both extremes, proximity to man, and where man was absent. In the ancient town of Tuxpan, State of Jalisco, I saw numerous instances of Barn Swallows nesting in the living rooms. In the unsettled portions of the State of Chiahuahua, a hundred miles back from the railroad on one of the large 'haciendos'— a region devoid of the time-honored 'adobe'— Barn Swallows still nested on the rocks.

Throughout the eastern part of the United States Flickers (*Colaptes auratus*) frequently take up their abode within buildings, entering by way of holes cut by themselves. In the west the Red-shafted Flicker (*Colaptes cafer collaris*) has taken up the same habit, only to a less extent, due to the less pressing need. How conspicuous are the woodpecker holes in telegraph poles in some sections of the country! Here a little investigation will soon reveal that the large trees have been removed, and that the poles offer a better nesting site than anything left standing in the woods. Along the railroad between Benson and Bisbee, Arizona, the telegraph poles and fence posts show evidence of the work of woodpeckers, all by the Texan Woodpecker. Throughout this region trees are few, and the woodpeckers are forced to use anything that is dead and large enough to permit of a nesting cavity being excavated in it. Dead stalks of the century plant are often used. About Phoenix, Arizona, this woodpecker is common, timber suited to their needs is still in abundance, and the poles along the railroads and elsewhere are untouched. In some parts of Mexico the work of woodpeckers on telegraph poles has reached the stage of a nuisance, and a source of much outlay of money to keep the line in repair. Over a piece of road running between San Luis Potosi and Tampico the nuisance has become so great that the management threatened to dip the poles in a solution of creosote.

House Finches (*Carpodacus mexicanus frontalis*) readily accept any change offered, in this being a close second to the English

Sparrow (*Passer domesticus*). On San Clemente Island, Cal., they make free use of the sheep sheds. In others parts of California nests are commonly placed in the flowering vines over the doorway or in some choice flowering shrub, the birds amassing an unsightly bunch of rags, twine and hair. In Phoenix, Ariz., they are persistent in using the arc lights in various parts of the city. This species adapts itself admirably to changed conditions, adopting these by choice, not by need.

A THIRD TRIP TO THE HIGH SIERRAS.

BY MILTON S. RAY.

My brother, William R. Ray, and I, with our double team and camping rig, which has seen a thousand miles of service, departed at noon June 6, 1903, on the steamer which takes one as far as Eagle Point on the Sacramento River. The wealth of lower zone bird life here, in the lowlands along the river, must be seen to be appreciated, and the morning chorus from the willow thickets and marshy meadows is a revelation, imparting to the region a certain attractiveness which it lacks in most other respects.

June 7.— We arrived at Eagle Point at 5 o'clock A. M. and started immediately on going ashore. The weather had been extremely warm and the temperature was 106° in the shade at 8 o'clock this morning. We followed the level valley road through Sacramento to Folsom, which lies in the foothills on the American River, and halted five miles east of the latter town.

June 8.— In order to avoid the scorching heat we resumed our journey in the early hours this morning and traveled by the light of a full moon. Several miles from the starting place we discovered what appeared, in the uncertain light, to be a coiled rattlesnake. On nearer approach, however, the object took flight disclosing two small young, and proved to be a Dusky Poor-will